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***Aneurus (Neaneurus) shaanxianus* spec. nova from China  
(Heteroptera: Aradidae)**

E. HEISS

**A b s t r a c t :** The subgenus *Neaneurus* HEISS 1998 was based on the only species *Aneurus (Neaneurus) macrotylus* JAKOVLEV 1880, which is reported from Russian Far East including Sachalin and Kurile Islands to Korea and Japan but is not recorded from China. Now *Aneurus (Neaneurus) shaanxianus* spec. nova from Shaanxi province in China, a second species belonging to this subgenus, is described and figured.

*Aneurus hubeiensis* LIU 1981, described from Hubei province in China, is also closely related to both abovementioned species and thus transferred to this subgenus. Therefore *Aneurus (Neaneurus) hubeiensis* LIU 1980 comb. nov. is proposed.

**Key words :** Heteroptera, Aradidae, Aneurinae, *Aneurus*, *Neaneurus*, new species, China.

**Introduction**

The flat bug family Aneurinae DOUGLAS & SCOTT 1865 is represented so far in China by 10 species, all of them were placed in the genus *Aneurus* sensu auct. (HSIAO et al. 1981). Already STYS 1974 and JACOBS 1986 recognized, that the species composition of *Aneurus* is heterogenous and separated the subgenera *Iralunelus* and *Paraneurus* respectively, which later were treated as genera by KORMILEV & FROESCHNER 1987. Recent taxonomic study by the author (HEISS 1998) on palaearctic material of *Aneurus* has shown, that further subdivision is necessary and introduced the new subgenera *Aneurodes* and *Neaneurus*, leaving only the type species *A. laevis* in the genus *Aneurus* s.str.

With regard to these changes, a reconsideration of the taxonomic status of the described species of *Aneurus* sensu auct. recorded from China, seems necessary. It should be based on the types, but most of them are not available for further investigation.

The subgenus *Neaneurus* HEISS 1998 is characterised by dorsal laterotergites II and III separated, the presence of a small triangular contergite at the anterior inner angle of dorsal laterotergite III, by the very short corium which reaches only 1/3 of the semicircular scutellum, by spiracles II, V-VII lateral and visible from above, III+IV ventral, VIII apical, further by the blade like parameres with some bristles on the convex side. It comprises so far only the East-Palaearctic species *A. (Neaneurus) macrotylus* (JAKOVLEV 1880). Now a second species, *A. (Neaneurus) shaanxianus* from China, Shaanxi province, is described and figured.

## Material and methods

The specimens on which this study is based were kindly presented by the German entomologists Dr. H. Günther (Ingelheim) and Dr. W. Ullrich (Lübeck) for which I thank them very much. They are from two localities of the same mountain range.

Measurements were taken with a micromillimeter eyepiece, 40 units = 1 mm.

Abbreviations used in the text: CTg - contergite, DELTg - dorsal external laterotergites, MTg - mediotergite, VLTg - ventral laterotergite.

## Description

### *Aneurys (Neaneurys) shaanxianus* spec. nova (Figs. 1, 4-6, 9, 10)

**Type material:** Holotype ♂, China (NO), Shaanxi, Qin Ling Shan Mt., 108.47 E, 33.51 N, autoroute km 70, 47 km S Xian 2500 - 2600 m, 26 - 29 VIII 1995 leg. Wrase; deposited in the collection of the author as a permanent loan of the Tiroler Landesmuseum Innsbruck. Paratypes 5 ♂♂ 5 ♀♀, collected with holotype; 2 ♀♀, China, Shaanxi, Qin Ling Shan Mt., Xian, 20 VIII 1995 leg. Pütz, in coll. Günther, Heiss, Ullrich and Zheng Le Yi (Tianjin).

**Diagnosis:** Smaller species than *A. macrotylus* (Fig. 2), differing from the latter by less protruding anterolateral pronotal lobes, longer antennae with segment IV longer than II + III (shorter than II+III in *A. macrotylus*), posterior half of pronotum with same coarse granulation as on scutellum (fine and partly obliterating in *A. macrotylus*), scutellum with a roundish not triangular basal elevation and pyriform not globular pygophore in male.

**Description:** Macropterous male (HT) Fig. 1.

Body ovate, stout and broadly rounded. General colour dark brown, membrane of lighter colour, whitish at base. Head, thorax, dorsal laterotergites, legs and antennae with distinct granulation, mat. Membrane irregularly wrinkled, shiny, its base and lateral borders smooth and mat. Venter smooth and glabrous at middle, lateral portions rugose and shiny.

**Head:** Slightly wider across eyes than its length from apex of clypeus to posterior margin of transverse rugae of vertex (31.5 / 30). Clypeus subparallel, reaching slightly beyond antennal segment I, with rounded apex, flanked by thin genae which are shorter than clypeus. Antenniferous lobes diverging with a lateral tooth. Postocular lobes not reaching lateral margin of eyes, subangular then rounded and strongly converging towards collar. Antennae 1.75 x as long as width of head, relative length of segments I : II : III : IV = 10 : 10 : 11 : 24; ratio IV : II + III = 1.14. Vertex with 2 (1 + 1) sublateral ovate smooth depressions. Rostrum shorter than head, rostral atrium open, rostral groove triangular, open posteriorly.

**Pronotum:** More than twice as wide as long (58 / 25). Anterior margin barely concave at middle, collar narrow. Lateral margins parallel at humeri, then strongly sinuate and parallel. Anterolateral lobes rounded, moderately projecting anteriorly over collar. Posterior margin slightly sinuate at middle, convex laterally. Surface midlaterally depressed, anterior portion with irregular elevated smooth callosities, posterior portion with fine obliterating granulation, flat at middle, humeri elevated.

**Scutellum:** Semicircular, nearly twice as wide as long (39 / 21). Sublateral ridges thin, formed by granules. Disk roundly elevated at base, with coarse granulation.

**H e m e l y t r a :** Corium very short, reaching 1/3 of scutellum, its lateral margin convex, surface with a single, elevated longitudinal vein. Visible part of clavus reduced to a small triangle. Membrane developed, reaching posterior margin of MTg VI. Surface except basal portion and a small lateral strip irregularly wrinkled.

**A b d o m e n :** Oval. Posteroexterior angles of DELTg III-VI barely projecting, lateral margins evenly rounded. DELTg II and III not fused, III with a small triangular smooth contergite at the inner anterior angle (Fig. 10). Tergal plate with submedian rugulose areas, which are connected at MTg III (Fig. 4); lateral margins formed by a thin elevated granulate ridge with a small lateral rugose strip along its inner side.

**V e n t e r :** Ventral hem broad, delimited in both sexes on VLTg II-VI. Mediosternites smooth with lateral portion rugose. Apodemal impressions glabrous. Spiracles II, V-VII lateral and visible from above, II+IV ventral on inner margin of ventral hem, VIII apical on paratergite VIII (Fig. 5).

**L e g s :** Femora slender with distinct trochanters, tibiae nearly straight, protibiae with apical comb. Tarsi two-segmented, claws with distinct pseudopulvilli.

**G e n i t a l s t r u c t u r e s :** Male. Visible part of pygophore stout, pyriform (length / width = 11 / 14), paratergites VIII slender, as long as pygophore. Parameres blade like with few long bristles on its convex side (Figs. 9a-c).

**F e m a l e :** Generally as male but larger and abdomen wider. Anterolateral lobes of pronotum mostly more produced anteriorly. Length of membrane variable, covering 1/2 of MTg V to 1/2 of MTg VII, the latter also in some males. Genital segments as Figs. 4+5.

**M e a s u r e m e n t s :** HT ♂ length 4.70 mm, width of abdomen across tergite IV 2.27 mm, ratio length / width of abdomen 2.07; variability of length in paratypes 4.65-5.05 mm. ♀ length 4.65-5.30 mm, width of abdomen across tergite IV 2.35-2.55 mm.

**E t y m o l o g y :** Named after the province Shaanxi, where it has been collected.

## Discussion

The new species may be confounded with *A. (Neaneurus) macrotylus* which, according KANYUKOVA 1988, is widely distributed in Far East of Russia including Sachalin and Kurile Islands and also reported from North- and South Korea as well as Japan (Honshu), but has not been recorded to date from China, where it might be expected in the North-eastern Territory. Generally *A. macrotylus* is larger (checked specimens from Russia [Ussuri], North-Korea [Onpho-ri] and Japan [Mt. Iwasuga, Nagano, Honshu] ♂♂ 5.0-5.3, ♀♀ 5.55-6.25 mm) than *A. shaanxianus* spec. nova, both showing a considerable variability in size. But the latter can be recognized easily by the longer antennal segment IV and the pyriform pygophore.

LIU 1981 described *Aneurus hubeiensis* from Shennongjia in Hubei province, which, according to his figures (5, 6, 7) and the photos given by HSIAO et. al. 1981 (table 34, photo 339 and 340) and two specimens (♂♀) available for study, is closely related to *A. shaanxianus* and *A. macrotylus*, also showing expanded anterolateral pronotal lobes, semicircular scutellum and presence of a small contergite (as both species) and the antennal segment IV longer than II+III (as *A. shaanxianus*). But it differs from both by the more slender, elongate habitus (Fig. 3), the longer antennae (ratio length of antennae / width of head 1.9, 1.75 in *A. shaanxianus*, 1.63-1.70 in *A. macrotylus*) and the con-

spicuous lateral angular projection of pronotum. Its size is indicated by LIU 1981 as ♂ 5.88 mm, ♀ 6.08 mm, the specimens studied are 5.05 mm (♂) and 6.0 mm (♀). There is no doubt that this species represents another member of the subgenus *Neaneurus*, therefore I propose *Aneururus* (*Neaneurus*) *hubeiensis* LIU 1981 comb. nov.

### Zusammenfassung

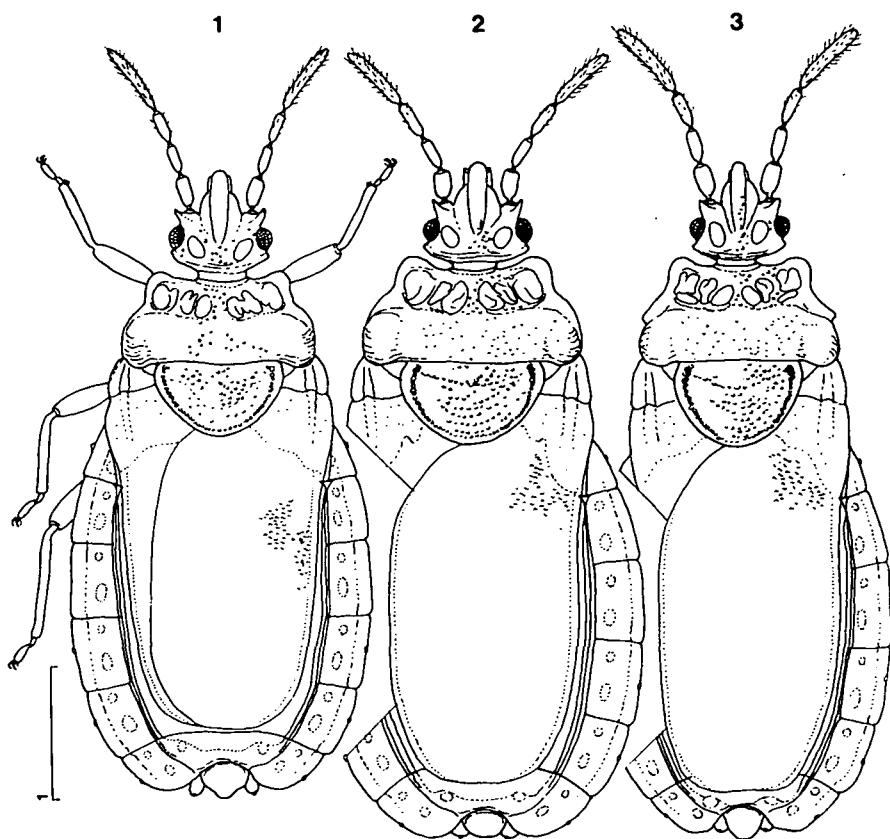
Die Untergattung *Neaneurus* war bisher nur auf einer Art, *Aneururus* (*Neaneurus*) *macrotylus* JAKOVLEV 1880 begründet, welche in der Ostpalaearktis vom Fernen Osten Russlands einschliesslich Sachalin und den Kurilen, über Nord- und Südkorea bis nach Japan, jedoch nicht von China gemeldet wurde. Nun liegt eine zweite neue, in diese Untergattung zu stellende Art aus der Provinz Shaanxi in Mittelchina (Northern Territory) vor, welche als *A. (N.) shaanxianus* spec. nova beschrieben und abgebildet und mit *A. macrotylus* verglichen wird.

Der von LIU 1981 aus der Provinz Hubei beschriebene *Aneururus hubeiensis* steht diesen beiden Arten nahe und ist zweifelsfrei ebenfalls in die Untergattung *Neaneurus* zu stellen. Daher *Aneururus* (*Neaneurus*) *hubeiensis* LIU 1981 nov. comb.

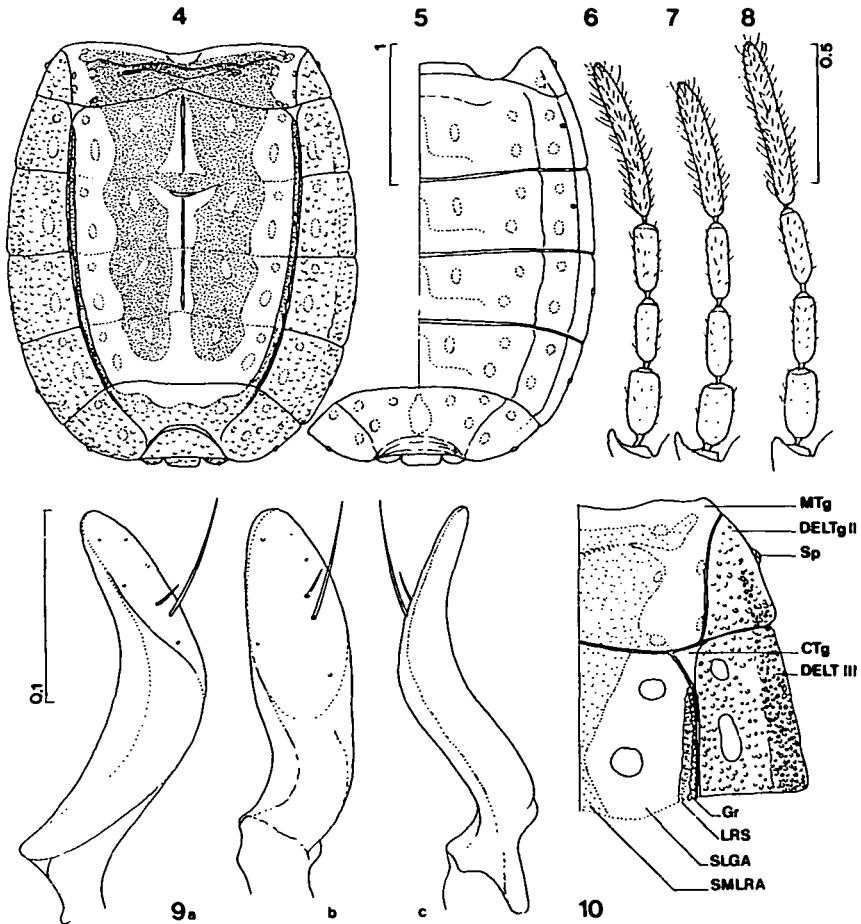
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Address of the author : Dr. Ernst HEISS,  
Research Entomologist Tiroler Landesmuseum,  
Josef Schrafl Strasse 2a,  
A-6020 Innsbruck, Austria.



**Figs. 1-3:** Habitus of male *Aneurus* (*Neaneurus*) species. 1 - *A. shaanxianus* spec. nova; 2 - *A. macrotylus* (Vladivostok); 3 - *A. hubeiensis* (Hubei prov.). Scale in mm.



Figs. 4-10: 4 - *Aneurus (Neaneurus) shaanxianus*, abdomen dorsal; 5 - ditto, venter; 6 - *A. shaanxianus*, left antenna; 7 - ditto of *A. macrotylus*; 8 - ditto of *A. hubeiensis*; 9a-c - *A. shaanxianus*, paramere in different positions; 10 - *A. shaanxianus*, right anterolateral portion of abdomen, dorsal view. Abbreviations: CTg - Contergite, DELTg - dorsal external laterotergite, Gr - granulate ridge, LRS - lateral rugose strip, MTg - fused Mediotergite I + II, SLGA - sublateral glabrous area, SMRA submedian rugulose area, Sp - spiracle II. Scales in mm.